Amendment to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of Claims:

Claims 1 through 38. (cancelled)

39. (currently amended) An adhoc multi-hopping wireless communications network comprising:

a plurality of nodes communicatively coupled within the adhoc wireless communication network, wherein each of the plurality of nodes is capable of operating in an operational state comprising:

an off state,

an active and relay state, wherein in the active and relay state, a node receives data packets addressed to the node and transmits data packets sourced by the node, and further wherein the node receives and transmits a relay of data packets addressed to at least one other node, and

an active and non-relay state, wherein in the active and non-relay state a node receives data packets addressed to the node and transmits packets sourced by the node, and further wherein the node does not relay data packets address to any other node,

the plurality of nodes comprising one or more categories of nodes, wherein each category of node defines the operational state for each node within the category, and

further wherein, the operational state of each of the plurality of nodes can be dynamically determined by one or more immediate neighbor nodes during route establishment dependent upon the category of the originating node.

40. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein each of the plurality of nodes comprises a mechanism for receiving one or more user configuration information, and further wherein the operational state of each of the plurality of nodes is further determined using the user configuration information.

41. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein each of the plurality of nodes comprises a mechanism for receiving one or

more network configuration information, and further wherein the operational state of each of the plurality of nodes is further determined using the network configuration information.

42. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein each of the plurality of nodes is further adapted to receive one or more economic credits for relaying one or more packets,

wherein each of the plurality of nodes includes an associated current number of economic credits and an associated maximum number of economic credits, and

further wherein the operational state of a node is set to an active and non-relay state when the associated current number of credits is at least equal to the maximum number of economic credits.

43. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein each of the plurality of nodes is adapted to inform one or more other immediate neighbor nodes of the operational state.

44. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 43, wherein each of the plurality of nodes is further adapted to inform the one or more other immediate neighbor nodes of a change in the operational state.

45. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein each of the plurality of nodes is further adapted to provide configuration information to one or more other immediate nodes for use in the one or more immediate nodes determining the operational state of the node.

46. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein the category of at least one of the plurality of nodes comprises a non-network infrastructure component category, and further wherein the operational state is set to an active and non-relay state for each of the plurality of nodes of the non-network infrastructure component category.

47. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein an immediate neighbor node is a group member of a closed user group, and further wherein the originating node comprises a non-group member of the closed user group, and further wherein the operational state of the immediate neighbor node is set to an active and non-relay state in response to the category of the originating node comprising a non-group member of the closed user group.

48. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein each of the plurality of nodes has an associated node class, and further wherein the operational state of each immediate neighbor node is determined by the relationship between the originating node's associated class and the immediate neighbor node's associated class.

49. (previously presented) An adhoc multi-hopping wireless communication network as claimed in claim 48, wherein the operational state of the immediate neighbor node is set to an active and relay state when the immediate neighbor node's associated class comprises a class selected from a class group comprising a line powered device, a high remaining battery life device, a least interference device, a least energy device, and a high performance device.

50. (previously presented) An adhoc multi-hopping wireless communication network as claimed in claim 48, wherein the operational state of the immediate neighbor node is set to an active and non-relay state when the immediate neighbor node's associated class comprises a class selected from a class group comprising a battery powered device, a low remaining battery life device, a high interference device, a high energy device, and a low performance device.

51. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein each of the one or more immediate neighbor nodes comprises a neighbor table stored in a memory for use in determining the operational state of the plurality of nodes.

52. (currently amended) An adhoc multi-hopping wireless communications network comprising:

a plurality of nodes communicatively coupled within the adhoc wireless communication network, wherein each of the plurality of nodes is capable of operating in an operational state comprising:

an off state,

an active and relay state, wherein in the active and relay state, a node receives data packets addressed to the node and transmits data packets sourced by the node, and further wherein the node receives and transmits a relay of data packets addressed to at least one other node, and

an active and non-relay state, wherein in the active and non-relay state a node receives data packets addressed to the node and transmits packets sourced by the node, and further wherein the node does not relay data packets address to any other node,

wherein each of the plurality of nodes is adapted to:

determine its operational state, and

inform one or more immediate neighbor nodes of the operational state .

53. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein each of the plurality of nodes is further adapted to inform the one or more immediate neighbor nodes of a change in the operational state.

54. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein each of the plurality of nodes comprises a mechanism for receiving one or more network configuration information, and further wherein the operational state of each of the plurality of nodes is further determined using the network configuration information.

55. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein each of the plurality of nodes comprises a mechanism for receiving one or more user configuration information, and further wherein the operational state of each of the plurality of nodes is further determined using the user configuration information.

56. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein each of the plurality of nodes is further adapted to receive one or more economic credits for relaying one or more packets, and

wherein each of the plurality of nodes includes an associated current number of economic credits and an associated maximum number of economic credits, and

further wherein the operational state of a node is set to an active and non-relay state when the associated current number of credits is at least equal to the maximum number of economic credits.

57. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein each of the plurality of nodes is further adapted to inform the one or more other immediate neighbor nodes of a change in the operational state.

58. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein the category of at least one of the plurality of nodes comprises a non-network infrastructure component category, and further wherein the operational state is set to an active and non-relay state for each of the plurality of nodes of the non-network infrastructure component category.

59. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein at least one of the plurality of nodes is a group member of a closed user group, and further wherein a packet originating node comprises a non-group member of the closed user group, and further wherein the operational state of the at least one of the plurality of nodes is set to an active and non-relay state in response to the category of the packet originating node comprising a non-group member of the closed user group.

60. (previously presented) An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein at least one of the plurality of nodes has an associated node class, and further wherein the operational state of each of the at least one of the plurality of nodes is determined by the relationship between a packet originating node's associated class and the at least one of the plurality of node's associated class.

61. (previously presented) An adhoc multi-hopping wireless communication network as claimed in claim 60, wherein the operational state of the at least one of the plurality of nodes is set to an active and relay state when the at least one of the plurality of nodes' associated class comprises a class selected from a class group comprising a line powered device, a high remaining battery life device, a least interference device, a least energy device, and a high performance device.

62. (previously presented) An adhoc multi-hopping wireless communication network as claimed in claim 60, wherein the operational state of the at least one of the plurality of nodes is set to an active and non-relay state when the at least one of the plurality of nodes' associated class comprises a class selected from a class group comprising a battery powered device, a low remaining battery life device, a high interference device, a high energy device, and a low performance device.